HIGHER EDUCATION

MONTHLY PUBLICATION OF THE U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education, Higher Education Division

VOL. XI, NO. 1 SHINGTON, D. C. SEPTEMBER 1954

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Interuniversity Contracts in the U. S. Foreign Aid Program

By ALVIN ROSEMAN*

ADDRESSING the 67th Annual Convention of the Association of Land-Grant Colleges and Universities in Columbus, Ohio, on November 12, 1953, the director of the Foreign Operations Administration, Harold E. Stassen, declared:

It is our conviction that if we can to an increased degree translate, in relationship to the less developed areas of the world, the kind of an unfolding participation that took place within the United States in relationship to the land-grant colleges and universities—to the degree to which we can translate that, we will have an increased success for our country in its high objectives in the world scene. * * * We have * * * reviewed the manner in which our own Government had a relationship in the growth and development of the land-grant colleges and universities within the United States, and we have projected the unfolding development within the United States with all the allowances for the great differences to the problem that exist in the less developed areas of the world and the way in which the United States should exercise leadership, technical, economic, and cultural in the decade ahead.

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We have reached the conclusion that we should present to you a very direct plea for assistance in a new and expanded way—in a way which we feel will translate to the world scene to a very major extent the kind of association and development that occurred within the United States.

* * * * *

We are prepared to enter into new, broad, long-term contracts with the land-grant colleges in the United States in relationship to specific underdeveloped countries and the educational institutions within those countries. We are prepared on the basis of 3-year contracts to set agreed objectives of accomplishments, to set broad outlines of the method of program, and to leave to a very major extent the decentralized implementation of research and education and extension work to the institutions within the United States which have had the relevant particular kind of training and experience.

Technical cooperation to aid other free nations to achieve a higher standard of living for their people through economic development is one of the key elements of the United States foreign policy.

The cooperative relationship by which one nation assists another to achieve its economic development goals is not confined to governmental actions. Private trade and commerce has always afforded one of the principal channels for the transmittal of ideas and techniques. Other common-interest groups, such as farm organizations, labor unions, and pro-

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fessional societies play a very significant part in disseminating technical information and developing mutual understanding. Educational institutions obviously have a most important role, not only because technical cooperation is basically an educational process, but also because better education is one of the great aspirations of all countries. The veneration with which education is held in so many parts of the world usually makes technical cooperation in this field readily acceptable, especially when the relationship is between two educational institutions rather than on a government-to-government basis.

FOA's New Plan

The importance of strong, well-rooted educational institutions in underdeveloped areas has led the Foreign Operations Administration to place increased emphasis upon interuniversity relationships as one of the principal methods of providing assistance to these countries. Through FOA-financed contracts between American universities and foreign ones, FOA hopes to encourage the development of indigenous centers of technical assistance which will provide for their own nations the types of higher education and the university extension, demonstration, and advisory services to agriculture, industry, and government which have made such an outstanding contribution to the economic development of the United States.

Universities have a long history of assisting in the development of educational institutions in foreign countries. Many of our American colleges have benefited from relationships with older European schools and have, in turn, aided new institutions in other parts of the world. The earlier United States foreign-aid programs, which have now been brought together in the Foreign Operations Administration, called extensively upon the resources of American universities for research studies and other special projects abroad, and for the training of thousands of foreign students and technicians in the United States.

These activities are being continued under FOA, but under its new emphasis on university-to-university relationships, FOA is requesting a more difficult and more significant contribution from the American colleges. An extraordinary acceleration is taking place in the growth of higher education in many countries of Latin America, the Near East and Africa, and the Far East. The economic needs of the underdeveloped countries are great, and their aspirations for competent technicians of their own are compelling. Some countries almost expect new universities immediately to spring full-blown from some Jovian brow; others wish to transform ancient classical schools into technical institutions at the touch of a magician's wand.

To assist in meeting this urgent need, FOA is now allocating a much greater proportion of its total technical cooperation funds to the financing of interuniversity contracts. The three principal characteristics of this new type of interuniversity contract are the longer duration of FOA financing, the more comprehensive character of the fields of activity, and the basic emphasis upon institutional relationships.

FOA recognizes that year-to-year arrangements may not be stable enough to permit American schools to plan their overseas programs or to enable them to work effectively with foreign institutions. The new FOA-financed contracts are normally written for a 3-year period. This permits the two universities to plan for the exchange of faculty, to work out programs for curriculum and staff development, to undertake demonstration and pilot projects, and to develop a solid foundation for future growth.

The fields of interuniversity activity eligible for FOA financing are those fields of education which are important to the foreign country's economic development. Most of the underdeveloped countries participating in the technical cooperation program are predominantly agricultural. They naturally are especially interested in the education of agricultural scientists and in the training of technicians who will apply the fruits of research to the enhancement of the agricultural economy. The great contribution which the university agricultural extension system has made to our American economic development is well known to them. For these reasons, agriculture is a major field in most of the FOA interuniversity contracts.

But these countries are not interested solely in the development of their agriculture. They recognize that one of their most fundamental needs is that of general improvement in their educational systems. Especially in countries which are currently emerging from a colonial or semicolonial stage, there is an overwhelming demand for an educational system which will prepare a new citizenry for its responsibilities. Requests for assistance from American universities in this field usually emphasize educational administration and teacher training, especially in vocational subjects.

Engineering is another area of education in which

underdeveloped countries desire cooperative relationships with American universities. These nations are eager to develop their natural resources and their manufacturing industries. They have vast need for public works and for transportation facilities. They wish to have their own engineers, not foreign ones, and seek the help of American schools in strengthening this aspect of their educational systems.

Education in public health represents still another field in which assistance from American universities is frequently requested by underdeveloped countries. The limited number of American schools of public health has severely handicapped the extension of university-to-university relationships in this field, but the requirements for well-trained public health doctors, sanitary engineers, and nurses in most areas of the world are overwhelming.

Public administration and business administration are two additional educational areas in which increasing interest is being manifested. The development of these countries is very largely dependent upon their ability to organize and manage the private and public enterprises through which their economies will grow. In some countries the maintenance of political and social stability requires great improvement in the operation of governmental services. In both the private and the public sectors, there are great needs for personnel trained in administration and management techniques. The countries look to their educational institutions for these types of training, but only a few of them have had experience in these important fields—fields to which American universities have made such a significant contribution.

The variety of subject-matter fields involved in interuniversity contracts indicates the scope of the relationships which are developing between American and foreign schools. To enable itself to provide the assistance requested by a foreign college in any one of these technical fields, the American university calls upon many additional elements of its educational resources. Almost every one of its constituent colleges will have a significant contribution to make toward a better understanding of the foreign country's economic development problems and the techniques for assisting the foreign university to aid in their solution. Through the give-and-take of interdisciplinary relations on its campus, the American university develops a wide knowledge of the country whose school it is assisting. The foreign faculty members who come to the American school for study and observation, the foreign graduate students who come to it for advanced training, and the members of its own field parties who return after their initial tours of duty, all bring a broader comprehension and interest to the American institution. From these personal relationships grow institutional ties and bonds of intellectual cooperation which transcend the specific fields enumerated in the official contract.

Procedure for Contracting

As is the case in all other aspects of the United States technical cooperation program, these contracts are initiated through the foreign government desiring such assistance. Representatives of that government and of the local educational institution review the general plan and the proposed fields of activity with FOA's local mission, which forwards the request to FOA's Washington headquarters. In some instances, the proposal indicates the American university which the foreign school would suggest as its partner. In others, suggestions are requested as to American schools which might be well qualified for, and interested in, a contract in the fields involved. FOA then consults its own resource files, the American Council on Education, other professional organizations, the United States Office of Education, and appropriate governmental agencies, and makes preliminary inquiry of the institutions recommended by these sources.

After the foreign university has made its choice of interested American schools, FOA arranges for representatives of the United States institution to visit its prospective partner. These precontract trips are an important FOA innovation. Their primary purpose is the preparation of an agreed on work program, which forms the heart of the formal agreement. This work program—a statement of the specific services and assistance the American school will provide and the arrangements under which the foreign institution will participate—must be developed through consultation between the two schools. Both the foreign government and the FOA mission have a contribution to make to the formulation of a work program consistent with the country's economic development needs. From such a visit, the American university secures a clear understanding of the task it is being asked to undertake and the local conditions under which its representatives will be serving. The foreign school, in turn, learns what assistance it may expect and what arrangements will be necessary on its side. When the American

school's representatives return to Washington, the official contract is drafted.

Most university contracts involve three types of cooperation. The American school agrees to send overseas a university team which will remain in residence at the foreign institution, and to provide special consultants for brief periods. The primary function of this team is to advise and assist the foreign school in program planning and in methodology, rather than to teach courses. The foreign school agrees that a number of its key faculty members, and graduate students who are prospective faculty, will study at the American university. The American school also engages to advise its counterpart what additional facilities, equipment, and supplies may be needed, and, where appropriate, it may act as its procurement agent in the United States. The foreign university, or the foreign government on its behalf, agrees to contribute a fair share of the cost of the undertaking and FOA guarantees the payment of the remaining costs from the United States technical cooperation program for the country concerned. The American university is not expected to spend its own resources for this purpose.

Two examples of the direct university-to-university relationship which helps to build the kind of indigenous center for technical assistance and makes a lasting contribution to the economic development of a country are the activities of Cornell University in the Philippines and Purdue University in Formosa.

Cornell University has been working with the College of Agriculture of the University of the Philippines. The College of Agriculture had been almost completely destroyed during the Japanese occupation. It was necessary, therefore, not only to rebuild the physical plant but to expand facilities to meet increased demands to train a teaching staff, and to develop a central experimental station. Through the university-to-university relationship, begun in 1952, members of Cornell's faculty have been assisting the faculty and staff of the College of Agriculture, and younger faculty members of the college have come to the United States for study. The dollar costs of this contract have been met by FOA and the local costs by the Philippine Government.

In reestablishing this institution, the emphasis has been on developing services to the community—services in the sense of working out problems with the people of the rural area, with government agencies, and with local industries. This involved not only training regular teaching staff, developing research facilities, carrying on cooperative arrangements with government agencies (such as the Bureau of Plant Industry) on experimental projects, and the training of extension workers, but also stressing the concept of a "grass roots," rather than an academic approach to the education of farmers.

In similar fashion, Purdue University has been working with Taiwan College of Engineering in Formosa. Under this contract, Purdue's faculty have worked with faculty and staff of Taiwan College of Engineering. Senior members of the faculty, including the president of the college, have spent time observing and studying in the United States. In addition to expanding and strengthening the teaching facilities of the college, effective relationships have been established with the industrial community of Taiwan, and, through the organization of a professional engineering society, cooperation with the local engineering profession has been strengthened.

Program in Operation

As of July 1, 1954, there were 36 FOA-financed university contracts in operation with about the same number currently under negotiation. Before the year's end it is anticipated that more than 50 different American universities and colleges will be working with their counterparts in approximately 40 countries in various parts of the world. The foreign governments and the foreign universities are carrying their fair share of the cost of these cooperative arrangements. The cost to the United States, over the 3-year period, will approximate $40 million. The individual amounts of these contracts range from a single-purpose contract involving one United States university specialist for 1 year at $10,000, to a 1.8 million dollar multipurpose contract for 3 years in 5 different fields which provides for: (1) faculty members of the United States university working in the host country with the foreign institution, (2) faculty of the foreign institution coming to the United States for training, and (3) the supplying of a certain amount of equipment for demonstration purposes and for development of physical facilities.

Most of these contracts are predicated upon a direct relationship between an American university or college and a foreign university or college. However, in a number of situations because of the lack of an appropriate foreign educational institution or because of other special local circumstances, the contractual relationship is between the American

institution, on the one hand, and ministries of foreign governments, joint foreign government-American government entities, or directly with FOA, on the other. As indigenous educational institutions are developed, it is FOA's expectation that most of these contracts will be modified to the interuniversity type.

A successful example of a somewhat different relationship—one with a government interested in establishing an educational center where none existed—is the Oklahoma Agricultural and Mechanical College contract with the Ethiopian Government.

In Ethiopia, Oklahoma A. & M. has been assisting the Ethiopian Government in establishing the new Imperial Agricultural College. The American institution has also aided in development of a country-wide system of agricultural extension services, in the establishment of agricultural research and experiment stations, and in the general development of indigenous Ethiopian resources. Under this contract, Oklahoma A. & M. has assisted in the operation of agricultural secondary schools, geography and English language instruction, arts and crafts activities, and vocational trade schools. It has also undertaken surveys in water development and farm marketing services and assisted in designing a sewage-disposal system in Addis Ababa.

Because of the very limited number of Ethiopian technicians, Oklahoma A. & M. personnel have undertaken many operating responsibilities under this contract. As Ethiopians are trained in these technical fields, they will assume the operational tasks and the American personnel will function primarily in an advisory capacity.

Among other contracts recently signed are: (1) A contract in the field of medicine between the University of California and the University of Indonesia; (2) two contracts in Pakistan in the fields of education, agriculture, engineering, business administration, and home economics—one between the State College of Washington and the University of Punjab and the other between Texas Agricultural and Mechanical College and the University of Dacca; (3) a contract with the University of Maryland to assist the Foreign Operations missions in British Guiana and Surinam in carrying out projects in agriculture, engineering, public health, housing, transportation, and community development; and (4) a contract between the University of Southern California and the University of Tehran in the field of public administration.

Mutual Advantages

The American university community has already responded with enthusiasm to the educational possibilities inherent in this program. Many schools have recognized these foreign university affiliations, not only as opportunities for participation in an important aspect of United States foreign policy, but also as a resource for broadening the competence of their own faculties and for widening the horizon of the home campus. The task is not an easy one for the American institution. It must make some of its ablest staff available for overseas service; for a university team, no matter how competent, which has had little previous connection with the school it represents, is not likely to develop the institutional relationship fundamental to the long-range success of this effort. It must make special provision for visiting foreign faculty members who may present difficult problems of attitude and educational philosophy. It must cope with the rigidities of governmental fiscal processes at home and the complexities of an overseas operation under unfamiliar conditions. But the opportunities are great and the rewards of a continuing contribution to the underpinning of a durable peace are real.

Scientific and Professional Manpower Study Available

AN OUTLINE of organized efforts to improve the supply and utilization of scientific and professional manpower has recently been published as Office of Education Circular No. 394, *Scientific and Professional Manpower*, by Henry H. Armsby. It includes: (1) a brief discussion of the shortages in scientific and professional fields, of the need for a national policy, of basic Federal policies already announced, and of the interrelations among the agencies listed; (2) brief descriptions of the manpower activities of 12 nongovernmental and 7 Federal agencies thought to be the most active of the many agencies concerned with the scientific and professional manpower problem; and (3) a discussion of the results of the activities outlined. Single copies may be obtained free on request from the Office of Education.

The Colleges and Occupational Safety

By HENRY H. ARMSBY*

SAFETY, at work, at play, at school, on the street, or in the home, depends in large measure on proper mental attitudes. Our educational institutions, from the grade school to the graduate school, can and should play a vital role in the development of these attitudes. The schools and colleges of the nation are being asked by the President's Conference on Occupational Safety to participate actively in a campaign to reduce the number and severity of accidents which exact each year a terrible national toll of death, disablement, and expense, nearly all of which is the result of ignorance, indifference, or carelessness. This article deals with that part of the report of the Conference's Committee on Education which applies to colleges and universities.[1]

The President's Conference on Occupational Safety

This conference was established by President Truman in 1948 as "The President's Conference on Industrial Safety," and continued by President Eisenhower under its current name, which implies its broadened base of interest and activity. The annual meetings are attended by approximately 1,000 leaders of business, labor, Government (National, State, and local), insurance companies, educational groups, and private safety organizations from all parts of the nation.

A general coordinating committee and seven nationwide committees carry on the activities of the conference between its meetings and submit reports for consideration by the full conference. Printed reports of earlier conferences have been issued by the Department of Labor, and a report of the 1954 meeting is in preparation.

The committees at the 1954 meeting were: Community Occupational Safety Programs, Governmental Safety Services to Industry, Public Employee Safety, Accident Records Analysis and Use, Engineering, Research, and Education. The Committee on Education is divided into four subcommittees, (*a*) Schools, (*b*) Labor, (*c*) Public Agencies, and (*d*) Employer and Employee Associations.

Subcommittee A—Schools

The subcommittee on schools points out that the American school system is the best organized agency to reach effectively the largest percentage of the population, and that the schools have a dual responsibility in safety education. First, they must provide and maintain a safe environment as a basis for accident-free operation and as an example of safe working conditions. Second, they have a responsibility for safety instruction, preferably developed as an integral part of many subjects rather than as a separate subject within itself. In the field of higher education the subcommittee offers specific suggestions for teacher education, for technical institutes, engineering colleges, and other educational services.

Teacher Education

The education of teachers, particularly those intending to teach industrial arts and laboratory courses, should include adequate instruction in safe practices and safe attitudes, which will prepare these teachers not only to recognize the problems of accident prevention and to deal with them as they occur, but also to enrich the instruction offered. The program of teacher education should include preservice and inservice education, safety committees in national organizations, and safety sessions in conventions.

Preservice education.—All colleges and universities preparing teachers of industrial arts and vocational subjects should prepare safety programs for the education and protection of all those using school shops. The industrial safety training program of some of the larger colleges has many similarities to the program of an industrial plant. Second, all teachers being prepared to teach in school shops should be given instruction in safe practices, either by special courses or by integrating safety instruction into all courses. The ideal time to train a teacher in safe practices is when he is actually in shop practice. He should be given safety instruction so that he in turn will use similar methods in teaching his

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[1] Recommendations concerning elementary and secondary schools are reported in the September 1954 issue of SCHOOL LIFE, official journal of the Office of Education.

students. Third, in addition, teachers colleges might organize extension courses, institutes, or workshops, emphasizing safe practices.

Inservice education.—The administrators of State and local school systems have the responsibility for organizing activities for the inservice education of teachers in school shops. This can be provided through State or local courses in shop safety, the setting up of approved standards for the operation of shops, distribution of mimeographed instructions regarding safe practices and of posters and other visual aids, workshops and institutes, and by offering teachers opportunities to visit shops in other school systems and industrial plants to observe safety programs in operation.

Technical Institutes

The National Council of Technical Schools and the Technical Institute Division of the American Society for Engineering Education can assist in the general safety program by encouraging and helping technical institutes to: (1) Develop an awareness and understanding of industrial accident prevention in technical institute students through the use of separate safety courses and, more effectively, through integrated safety materials; and (2) consider the establishment of curriculums for the training of safety technicians.

Engineering Colleges

Engineering colleges can play a very important part in the overall program of safety education, since a great many of the elements of industrial safety involve engineering of various sorts. It is the belief of the subcommittee that: (1) Every engineering student should receive such instruction, as an integral part of his engineering instruction, as will develop in him an awareness of the accident problem in industry and business and a general mental attitude of responsibility for the safety of the individual engineer and his working associates; (2) the publishers of engineering textbooks should incorporate specific and integrated subject matter on safety in each text, in a manner appropriate to the subject; (3) the National Commission on Safety Education should bring this need to the attention of the publishers of engineering textbooks; (4) the need for a limited number of safety engineering specialists at the professional level should be satisfied by formal safety engineering study programs, preferably at the graduate level; (5) where engineering or management students are in close contact with industry through cooperative study programs, plant visits, or part-time jobs, the influence of the schools should be used to have the students' activities include a reasonable share of safety activity; and (6) engineering colleges should encourage and assist in the preparation of abstracts and bibliographies, and the Department of Labor's Bureau of Labor Standards should prepare a bibliography of available material relating to safety engineering and send it to all engineering colleges.

Other Education Services

The principles and recommendations expressed should be appropriately applied to other types of schools and colleges, as well as to workshops, short courses, study conferences, and similar extension programs.

School-Visiting Program

AT HASTINGS COLLEGE the entire faculty participates in a school-visiting program. As part of its teacher training plan faculty members visit the schools from which freshmen entering Hastings have come. Through these visits faculty members become acquainted with the schools and communities and their current educational problems. They also acquire a better understanding of the educational environment from which students have come and into which graduates may go as teachers.

Book on Student Deferments Available

THE ENGINEERING Manpower Commission of Engineers Joint Council has available a limited number of copies of the book *Student Deferment in Selective Service—A Vital Factor in National Security*, by M. H. Trytten, director, Office of Scientific Personnel, National Research Council. Dr. Trytten served as general chairman of the six Scientific Advisory Committees to Selective Service throughout their existence. He has also been an adviser to the Engineering Manpower Commission since its inception and is a recognized authority on manpower problems.

While the supply lasts, single copies of the book can be obtained gratis by writing to W. T. Cavanaugh, executive secretary, Engineering Manpower Commission, 29 West 39th Street, New York 18, N. Y.

Gallaudet College

By JENNINGS B. SANDERS*

NEARLY a century ago a private corporation known as the Columbia Institution for the Instruction of the Deaf and Dumb and the Blind was organized in Washington, D. C. A short time later (February 16, 1857) the institution was given a charter by Congress, and Federal funds were made available for tuition of eligible students in the District of Columbia.

Federal and Private Support

The dual, Federal-private, character of the institution thus established was to continue through the years. Although the President of the United States has traditionally served as its patron, three members of Congress have served on its board of directors, and the Federal Government has provided about 75 percent of the funds for its operations, the institution has governed itself since its inception.

Among the private citizens responsible for the school's launching, the most prominent was Amos Kendall, who gave the school 2 acres of ground and frame buildings worth $3,500, and a little later gave a newly constructed brick building valued at $7,100. Kendall was also a financial subscriber to the institution and served as president of its board of directors. By purchases made in 1865 and 1870, the institution came into possession of nearly one hundred acres of land representing substantially the Kendall estate, known then and now as "Kendall Green."

Degree Granting Authority Since 1864

A step "unprecedented in the history of deaf-mute instruction" was taken on April 8, 1864, when President Lincoln approved an act of Congress empowering the institution "to grant and confirm such degrees in the liberal arts and sciences * * * as are usually granted and confirmed in colleges * * *." Accordingly, in the following June, "The National Deaf-Mute College" was inaugurated as a new department of the institution. In 1894 this department was renamed "Gallaudet College" in honor of Thomas Hopkins Gallaudet, a pioneer in the education of the deaf in America and father of Edward Miner Gallaudet, who headed the District of Columbia institution from 1857 to 1910.

The college at present awards the degrees of associate in arts, associate in applied science, bachelor of arts, bachelor of science, and master of science in education. It also offers a professional diploma in administration and supervision in schools for the deaf.

Status Under Law of 1954

The institution has now been given the name by which it had become generally known: "Gallaudet College." The change of name is provided for in Public Law 420, approved by President Eisenhower on June 18, 1954. The new law states that the purpose of the college "shall be to provide education and training to deaf persons and other persons to further the education of the deaf." It places control of the institution in the hands of a board consisting of 10 nonpublic members, two representatives appointed by the Speaker of the House, and a Senator appointed by the President of the Senate. The Board must report annually to the Secretary of the Department of Health, Education, and Welfare, as previous boards were required to report to the Secretary of the Interior, and later to the administrator of the Federal Security Agency.

The 1954 law repealed several provisions of statutes passed since 1857 relative to the institution but now obsolete or impractical. An important provision of the 1954 law gives the board authority, with the approval of the Secretary of the Department of Health, Education, and Welfare, to dispose of any of the college's property, title to which is vested in the United States as trustee. Since 1872 all college real estate had been held by the United States as trustee, and no part of it could be disposed of without a special act of the Congress.

Growth Over Nearly a Century

Although, in its first year of existence, the institution enrolled 6 blind pupils among the total of 18, it gave up the education of the blind after the establishment of the collegiate department. "In pursuance of an act of Congress approved February 23, 1865, the blind pupils hitherto instructed in this

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institution" were "placed in the Maryland Institution for the Blind, at Baltimore."

In the first year of the operation of the college, the institution reported (June 30, 1865) that "five students, representing the States of Maine, Vermont, Connecticut, and Pennsylvania have entered upon and are now pursuing the regular college course of study; while eight others representing Ohio, Pennsylvania, Maryland, and the District of Columbia, have joined the intermediate or preparatory class." The national rather than local character of the college was thus established at the start. By 1954, its enrollment had risen to 258; the students came from almost all of the States of the Union and from 7 foreign countries. In June 1954, the college conferred 28 bachelor's degrees on its deaf students and 9 master's degrees and 2 professional diplomas on hearing students in its Graduate Department of Education. In the field of higher education it continues to enjoy the unique position that it has held since its founding.[1]

College Housing Program

THE INTEREST RATE for college housing loans has been reduced from 3.5 to 3.25 percent for the period from July 1 to December 31, 1954. However, an administrative determination has been made as to "generally comparable terms," under title IV of the Housing Act of 1950, which increases that amount from one-tenth to one-fourth percent. This new differential means that institutions receiving bids of 3.5 percent or less from private investors will be required to accept such bids.

It has also been determined that the interest rate on college housing loans will be the going Federal rate in effect at the time the loan is approved by the Housing Administrator, instead of the rate at the time the loan agreement is executed, as previously required.

An additional $25,000,000 has been released for college housing loans, which added to the $25,000,000 previously released, amounts to $50,000,000 for the fiscal year 1955. This represents a total of $200,000,000 released to date of the $300,000,000 authorization.

This program is administered by the Housing and Home Finance Agency, and by agreement the Office of Education advises on educational aspects.

Loan Fund for Latin American Students

THE LEO S. ROWE Pan American Fund, created by the late Dr. Rowe, former director of the Pan American Union, provides money to enable Latin American students to undertake studies, research or investigations in the United States. Students needing supplementary funds may borrow money from this fund. The applicants must present official certificates attesting to their scholastic ability and character and must show proof that they have been accepted by a recognized institution of higher learning in the United States. Beneficiaries must complete their studies, research or investigations within 2 years, and must repay the loan without interest within 5 years after the completion of the program for which the loan was granted. Additional information and application forms may be obtained from the Division of Education, Pan American Union, Washington 6, D. C.

National Science Foundation Grants

THE NATIONAL SCIENCE FOUNDATION has announced 176 grants totaling about $1,120,000 for the support of basic research in the natural sciences, studies and conferences on science, scientific information exchange, scientific manpower, education in the sciences and travel of American scientists to international scientific meetings. This is the fourth and final group of awards to be made during fiscal year 1954 by the Foundation for the support of basic research and related matters. Since the beginning of the program in 1951, more than 900 such awards have been made, totaling about $8,491,000.

Grants announced recently were made to institutions and scientists in 33 States, Alaska, Hawaii, and the District of Columbia. The research fields included are astronomy, chemistry, development biology, earth sciences, engineering sciences, environmental biology, genetic biology, mathematical sciences, molecular biology, physics, psychobiology, regulatory biology, and systematic biology.

[1] The materials for this article were drawn from: (1) Official reports of the institution dealt with in the article; (2) Reports of Evaluation of Gallaudet College, Washington, D. C., by the Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education, March 13 and 14, 1952; (3) The Federal Government and the Higher Education of the Deaf—A progress report on Columbia Institution for the Deaf, with proposals for action to complete the study, The Federal Security Agency, Office of Education, Washington, D. C., August 29, 1949; (4) Earned Degrees Conferred by Higher Educational Institutions, 1952–53, by Mabel C. Rice and Neva A. Carlson, U. S. Department of Health, Education, and Welfare, Office of Education, circular No. 380; and (5) *Public Law 420*, 83d Cong., 2d sess., June 18, 1954.

Higher Education Statistics: 1870 to 1952

By HENRY G. BADGER*

IN 1951–52 the institutions of higher education located in continental United States required the full-time equivalent service of nearly 200,000 faculty members; they enrolled more than 2,300,000 resident students of collegiate, professional, or graduate standing, and conferred degrees on approximately 400,000 of these persons. They received and spent approximately 2½ billion dollars for their current, day-to-day needs; utilized buildings, grounds, and equipment costing more than 6¾ billions of dollars; and held nearly 3 billion in permanent or semi-permanent funds.

Large as these figures are, it is only those having to do with finances which show great increase over the immediate past. The peak in faculty employment, in student enrollment, and in total number of earned degrees conferred was reached in 1949–50, although conferrals of masterates and doctorates increased somewhat in 1951–52.

Tables 1 and 2 carry data on the status of higher education in 1951–52, together with data for earlier years, so far as those data are traceable with at least a fair degree of confidence. It will be noted that the tabulations on personnel start with 1869–70, whereas those on finance start with 1929–30. This does not mean that earlier data on either of these phases of higher education activity are not available; it means that such earlier data as are available are subject to some reservation as regards number of institutions from which information was sought or received, number of items on which information was sought, interpretation of the data collected, and other factors affecting the comparability of the data over a span of years.

Early Reports on Colleges

Thus, the 1850 and 1860 censuses of the United States report, respectively, 234 and 467 colleges. These "colleges" had 27,159 pupils in 1950 and 56,120 in 1860. How many of these "pupils" were actually of collegiate grade and how many were subcollegiate can only be conjectured by comparison with the 1870 reports. These reports, published in some detail by the Bureau (now Office) of Education, indicate that in that year about three-sevenths of the total student enrollment in colleges and universities was of subcollegiate grade.

Again, although the 1850 and 1860 census reports give some data on income of the higher educational institutions of their day, these data are not in form comparable with those of the present day. They indicate, they do not show conclusively, that from 25 to 30 percent of the total income of these institutions was from endowment, 5 to 10 percent from "taxation and public funds," and the remaining 60 to 70 percent from "other sources." How much was collected from students for tuition, board, and room, or other purposes is not shown; neither is there any information on the expenditures, amount of endowment funds held, or value of buildings, grounds, and equipment.

This comparatively simple system of recording and reporting data on higher education was presumably suited to the needs of its time. As the higher education system became more complex, however, more data and more detailed data became necessary. A few examples will illustrate the point.

(1) For many years a count of the total number of faculty members provided a satisfactory measure of the amount of educational activity at colleges and universities. As the proportion of part-time teachers increased, however, the simple total of different persons lost much of its validity as an accurate measure; a more meaningful measure was called for. Finally, in 1931–32 the concept of the full-time equivalent faculty member was written into the questionnaires of the Office of Education. This expression refers to the total number of faculty members who would be needed to carry on the administrative and professional activities of an institution of higher learning if no persons were employed on a part-time basis and all work distributed among a faculty employed for full-time service only.

(2) As the number and proportion of women students in the various types of higher education increased, it was no longer satisfactory to make estimates of these enrollments. From 1919–20 on, a careful count of students by sex in all phases of higher education has been included in the tabulations.

(3) By 1919–20, midyear transfers of students between liberal arts and professional schools, and con-

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current multiple enrollments, had become so numerous that it was no longer possible to add these two major types of enrollment together and come out with a total of all students. This was especially true of students on the undergraduate level and to a lesser degree, of graduate students. The total undergraduate enrollment for 1919–20, for example, was 582,268, whereas the total in professional schools plus that in liberal arts was 599,507; this exceeds the total of different persons by 17,239 and indicates that that number of persons were registered in both liberal arts and a professional school during the year. In 1929–30 this duplicate enrollment was only 3,996 and in 1939–40 it was only 3,371. Since then it has fluctuated, but it is still above the 1939–40 figure.

It is still not possible from the data presented in these summaries to measure duplication of enrollments among the various professional schools. Neither is it possible to measure duplication between graduate and undergraduate enrollments from the present tabulations. The figure on total undergraduate enrollments is the result of an intentional adjustment of the totals so that a person registered as both a graduate and an undergraduate is reported as a graduate student only. (This adjustment may also have had some effect on the distribution of undergraduates by professional interest.)

(4) Students in college for the first time have been counted biennially since 1931–32. In that year they constituted 32 percent of the total enrollment of undergraduate and special students. Twenty years later, in 1951–52, this group of students constituted a little less than 26 percent of the undergraduate and special total for that year.

A count of freshmen (roughly equivalent to students first time in any college) was attempted in the 1869–70 report of the Bureau of Education. Although there are serious gaps in the data, it appears that about one-third of the liberal arts enrollment was in the freshman class. At present there seems to be no basis for an intelligent estimate of the number in professional schools who were at that time enrolled for their first year in college.

Degrees

The 82-year tabulation on earned degrees shows tremendous and almost continuous expansion from fewer than ten thousand conferrals in 1870 to nearly half a million in 1950. The increase in advanced degrees is proportionately more spectacular: from just 1 in 1870 to more than 70,000 in 1952.

In appraising these data, the reader should keep certain facts in mind.

(1) Only earned degrees are tabulated; honorary degrees are excluded. This policy has not always been easy to adhere to, as in some cases a similar degree has been conferred in cursu and honoris causa in the same year.

(2) Professional schools were not so generally on a degree-conferring basis 70 or 80 years ago as they now are. This is especially true in accounting, agriculture, education, law, and theology, as well as in schools preparing for some of the professions whose membership is not so large.

(3) Although college and university degrees have apparently become more numerous in proportion to the population, there has been for some years a move to restrict them and make them more significant. Institutions with obviously limited facilities are no longer given even tacit encouragement to confer degrees which they might have conferred quite freely a generation or two ago.

Finances

The current budget of American higher education, that is, the budget of income and expenditures for current day-to-day activities, has already been mentioned. Since this budget includes some activities which are essential to the educational and general program and some which are more or less ancillary to that program, it is customary to speak of the various parts of the budget separately. The educational and general expenditure budget embraces general administration and general expense, instruction, organized activities relating to instructional departments, organized research, extension and public service, libraries, and operation and maintenance of the physical plant. (The order of these functions is not significant: it may be altered to suit local needs.) The budget for auxiliary enterprises and activities includes the operation of student residence and dining halls, student unions, and other enterprises existing primarily for service to students, faculty, or other employees. A third division of the current budget has to do with scholarships, fellowships, prizes, and other forms of student aid which do not involve the repayment of cash by the recipient of the aid. This division of the budget, formerly known as other noneducational, is now commonly referred to as the student aid budget.

The current educational and general budget for

Table 1.—Historical summary of faculty, students, and degrees in higher education, continental United States, 1869–70 to 1951–52

Item	1869–70	1879–80	1889–90	1899–1900	1909–10	1919–20	1929–30	1939–40	1947–48	1949–50	1951–52
	Faculty [1]										
Total	[2] 5,553	[2] 11,522	[2] 15,809	23,868	36,480	48,615	82,386	131,552	196,300	210,349	198,477
Men	4,887	7,328	12,704	19,151	29,132	35,807	60,017	94,536	143,243	157,691	150,041
Women	666	4,194	3,105	4,717	7,348	12,808	22,369	37,016	53,057	52,658	48,436
	Resident college enrollments [3]										
Total	[2] 52,286	[2] 115,817	[4] 156,756	[4] 237,592	[4] 355,213	597,880	1,100,737	1,494,203	2,616,262	2,659,021	2,301,884
Men	41,160	77,972	100,453	152,254	214,648	314,938	619,935	893,250	1,836,339	1,853,068	1,510,650
Women	11,126	37,845	56,303	85,338	140,565	282,942	480,802	600,953	779,923	805,953	791,234
Graduate	([5])	([5])	2,382	5,831	9,153	15,612	47,255	105,748	174,432	237,208	233,327
Undergraduate and special	([5])	([5])	154,374	231,761	346,060	[6] 582,268	[6] 1,053,482	[6] 1,388,455	[6] 2,441,830	[6] 2,421,813	[6] 2,068,557
Professional	[7] 22,647	[7] 31,748	110,241	127,663	171,847	192,566	273,503	744,827	955,621	1,039,556	888,181
Liberal arts	[7] 29,639	[7] 84,069	44,133	104,098	174,213	406,941	783,975	646,999	1,498,457	1,387,739	1,183,957
First time in any college	([8])	([8])	([8])	([8])	([8])	([8])	[9] 336,997	417,539	619,232	594,126	529,950
	Earned degrees conferred [10]										
Bachelor's or first professional: Total	9,371	12,896	15,539	27,410	37,199	48,622	122,484	186,500	271,019	432,058	329,986
Men	7,993	10,411	12,857	22,173	28,762	31,980	73,615	109,546	175,456	328,841	225,981
Women	1,378	2,485	2,682	5,237	8,437	16,642	48,869	76,954	95,563	103,217	104,005
Master's or second professional: Total	0	871	1,009	1,583	3,771	4,301	15,043	26,731	42,400	58,183	63,534
Men	0	860	816	1,280	3,091	3,005	8,997	16,508	28,899	41,220	43,557
Women	0	11	193	303	680	1,296	6,046	10,223	13,501	16,963	19,977
Doctor's or equivalent: Total	1	49	[4] 126	369	420	564	2,216	3,290	4,188	6,633	7,683
Men	1	49	119	348	376	471	1,870	2,861	3,687	5,990	6,969
Women	0	0	7	21	44	93	346	429	501	643	714

[1] Totals, 1869–70 to 1929–30; full-time equivalent, later years.
[2] Estimated.
[3] Regular session only, September to June.
[4] Distribution by sex estimated.
[5] Distribution by level not available.
[6] Not including duplicate enrollments.
[7] Includes both graduates and undergraduates.
[8] Data not collected.
[9] Data for 1931–32.
[10] Data on degrees in teacher education institutions not collected before 1919–20.

1951–52 involved the expenditure of a little over $1,900,000,000 of which almost $600,000,000, or approximately 31 percent, was collected from students in the form of tuition and other educational fees. This represents somewhat less dependence on students as a source of income than was shown in 1929–30, when the corresponding percentage was 38. In 1951–52 the educational and general budget represented a total expenditure of something like $835 per student enrolled (regardless of whether such student was enrolled for a full or a partial course), as contrasted with a similar expenditure of $343 per student in 1929–30. In like manner, tuition and educational fees per student increased from $131 in 1929–30 to $258 in 1951–52. Thus it appears that although in 1951–52 the total educational and general expense to the college per student was 2.4 times that for 1929–30, tuition and fees per student were not quite twice those for 1929–30.

When it is recalled that the per capita income of the Nation in 1951 was 2.33 times that in 1929,[1] it appears that the day-to-day expenses of the average college kept pace with the average personal income in the Nation, but that tuition and other educational fees per student did not quite do so. In fact, these educational fees per student which in 1929 amounted to 19.3 percent of the average income per person amounted in 1951 to only 16.3 percent.

Physical Plant

The total investment in buildings, grounds, furniture, library books, scientific equipment, improvements other than buildings, and other physical properties held for educational or auxiliary purposes (not for investment purposes), in 1952 amounted to more than six and three-quarter billion dollars. This is the equivalent of something like $2,935 per student of college grade in residence during the year. This figure has increased sharply since 1930, when the property investment per student was $1,749.

The dependableness of these figures on value of plant has been questioned by many persons. And it must be conceded that probably they rest on a less firm foundation than do some other higher education finance figures. This is due in part to the fact that although for years authorities have recommended that plant assets be carried at cost, in some instances local conditions have dictated the use of insurance valuation, appraisal replacement value, or even the vague term "book value."

At the same time, sight should not be lost of the real purpose of recording and reporting these values. This purpose, stated repeatedly by Morey[2], Russell[3], and other authorities, is that of providing a proper control over the physical assets with a view to recording the use to which those assets are put and the service derived from them. For this purpose, which is quite different from that applying in commercial accounting, the actual basis of valuation of plant assets in higher education is not so important as the fact that a valuation of some defensible type is attempted. Thus, the data here given, while not absolutely reliable from a commercial accounting standpoint, are satisfactory for the purpose intended for them.

Plant Funds

Receipts specifically designated for expansion of the physical plant have fluctuated sharply, as have expenditures for this purpose. Receipts in 1929–30 for this purpose amounted to $75 per student of college grade; those for 1951–52 came to $158 per student: 2.1 times the earlier figure.

Plant fund expenditures were $114 per student of college grade in residence in 1929–30. The corresponding figure in 1951–52 was $201, which was 1.8 times the earlier figure.

Again, it may be questioned whether expenditures for this purpose have kept pace with building costs. Data compiled in the Office of Education show that what is generally referred to as the index of building costs[4] for 1951 was 2.1 times that for 1929; that is to say, buildings contracted in 1951 would have cost 2.1 times as much as the same buildings contracted in 1929. If, then, expenditures for building construction had kept pace with costs per unit of construction, the 1951–52 expenditure per student would have been $239 instead of the $201 reported. The grand total of expenditure would likewise have gone to something like $550 million, instead of the $409 million reported.

[1] Robert E. Graham, Jr., State Income Payments in 1952, in *Survey of Current Business*, vol. 33, No. 8, August 1953, p. 13.

[2] Lloyd Morey, *College Finance* (Financial Advisory Bulletin 1), p. 9. Washington, American Council on Education, 1935.

[3] John Dale Russell, *The Finance of Higher Education*, p. 47. Chicago, The University of Chicago Bookstore, 1944.

[4] Compiled by Nelson E. Viles of the Office of Education.

Table 2.—Historical summary of finances of higher education in continental United States, 1929–30 to 1951–52

[In thousands of dollars, i. e., 000 omitted]

Item	1929–30	1931–32	1933–34	1935–36	1937–38	1939–40	1941–42	1943–44	1945–46	1947–48	1949–50	1951–52
	Current funds											
Current income, total	$554,511	$566,264	$486,362	[1] $597,584	$652,631	$715,211	$783,720	$1,047,298	$1,169,394	$2,027,051	$2,374,645	$2,562,451
Educational and general	483,065	451,997	388,725	491,105	522,108	571,288	626,296	863,654	924,958	1,538,076	1,833,845	2,020,878
Student fees	144,126	150,649	138,257	158,134	178,996	200,897	201,365	154,485	[2] 275,518	[2] 669,328	[2] 701,934	[2] 593,491
Public sources	171,505	174,663	137,378	183,868	192,395	214,475	251,821	509,780	[3] 392,242	[3] 561,550	[3] 770,331	[3] 987,426
Private gifts and grants	26,172	29,948	27,468	37,115	36,908	40,453	45,916	50,449	77,572	91,467	118,627	149,826
Endowment income	68,605	60,903	55,533	60,090	70,654	71,304	74,075	75,196	89,763	86,679	96,341	112,859
Other educational and general	72,657	35,834	30,089	51,898	43,155	44,159	53,119	73,744	89,863	129,052	146,612	177,276
Other current income	71,446	114,267	97,637	106,479	130,523	143,923	157,424	183,644	244,436	488,975	540,800	541,573
Current expenditures, total	507,142	532,523	469,329	541,391	654,386	674,688	768,168	874,118	1,088,422	1,883,269	2,245,661	2,471,008
Educational and general	377,903	420,633	369,661	419,883	475,192	521,990	572,465	656,802	820,326	1,391,594	1,706,444	1,921,209
Instruction and extension	240,406	256,712	223,352	254,570	287,196	315,573	341,083	378,610	430,595	729,125	867,668	920,526
Research	18,007	21,978	17,064	22,091	25,213	27,266	34,287	58,456	86,812	159,090	225,341	317,927
Other educational and general	119,480	141,943	129,245	143,222	162,783	179,151	197,095	219,736	302,919	503,379	613,435	682,756
Other current expenditures	151,094	111,890	99,668	121,508	179,194	152,698	165,703	217,316	268,096	491,675	539,217	549,799
	Plant and plant funds											
Value of physical plant [4]	1,925,095	2,207,295	2,252,877	2,359,418	2,556,075	2,753,780	2,759,261	([5])	([5])	3,996,000	5,272,590	6,755,915
Receipts for plant expansion	82,078	56,257	41,803	([6])	58,264	66,209	30,096	22,587	121,837	364,901	[7] 528,748	[7] 364,569
Private gifts and grants	51,457	([6])	10,171	([6])	20,665	43,546	15,132	([8])	([8])	([8])	315,651	181,882
Public sources	30,621	([6])	([8])	([6])	([8])	22,663	14,964	([8])	([8])	([8])	72,620	71,598
Expenditures for plant expansion	125,106	98,290	29,503	47,369	70,466	83,765	50,202	27,427	71,403	306,371	416,831	409,080
	Endowment and other nonexpendable funds											
Endowment funds [9]	1,372,068	1,372,349	1,472,946	1,553,610	1,652,620	1,686,283	[10] 2,759,261	([8])	([5])	2,384,487	[11] 2,601,223	2,868,530
Annuity funds	([5])	([8])	43,757	42,029	43,782	49,537	([12])	([8])	([5])	69,050	([12])	74,640
Student loan funds	([5])	91,058	23,024	27,466	25,439	28,784	([12])	([8])	([5])	44,190	43,100	46,784
Permanent fund receipts [13]	[14] 63,512	47,677	27,478	47,039	49,583	44,518	38,510	69,688	([5])	75,881	[14] 66,850	164,308

[1] Includes receipts for plant expansion.
[2] Includes veterans student fees paid by Federal Government.
[3] Does not include veterans student fees paid by Federal Government.
[4] Includes unexpended plant funds.
[5] Data not collected.
[6] Included in educational and general income.
[7] Includes some receipts not itemized below.
[8] Data not tabulated.
[9] Includes funds functioning as endowment.
[10] Includes annuity and student loan funds.
[11] Includes annuity funds.
[12] Included with endowment funds.
[13] From private sources only.
[14] During the year.

Endowment and Other Nonexpendable Funds

Endowment funds, including both permanent and temporary endowment, amounted in 1930 to $1,246 per college student in residence; the corresponding figure in 1951–52 was $1,279.

A curious fact derivable from the original data but not shown in the accompanying tables is that in 1951–52 nearly 10 percent (9.8, to be exact) of all college and university endowment funds in the country was held by five institutions located in one city on the Atlantic seaboard.

When endowment income is compared with endowment principal, force is added to the widely accepted belief that interest rates were still going down as late as 1951–52. In 1929–30, the endowment income of $68,604,947 was 5 percent of the $1,372,068,447 endowment principal (including annuity and other quasi-permanent funds). In 1951–52 the corresponding rate was 3.93 percent.

Funds subject to annuity agreements have not shown the great fluctuation commonly ascribed to funds of this character. The tendency has been irregularly upward over the years for which data on this point have been assembled.

Loan funds suffered a sharp drop in the early 1930's: from more than $91 million in 1932 to $23 million in 1934. They have fluctuated somewhat since that time, their movement being generally in the direction of increases. In 1952 they stood at a little less than $47 million. An interesting fact not shown in the present tables is that not quite $8 million (roughly 17 percent of the principal) was loaned to students during the course of the year.

Total receipts for increase of permanent funds came to more than $164 million in 1951–52. Data not published here show that more than $96 million of this sum was in the form of gifts and grants from individuals, religious and philanthropic organizations, and other nongovernmental sources.

Sources of the Material

The basic data used in this paper are those gathered for the statistical chapters on higher education in the Biennial Survey of Education, 1950–52, plus historical data from earlier editions of that survey and its predecessor reports. These include the annual reports of the Commissioner of Education as well as reports of the Superintendent of the Census for the years prior to the establishment of the Office of Education.

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HIGHER EDUCATION

Published monthly from September through May. Its printing was approved by the Bureau of the Budget on September 28, 1954, as required by Rule 42 of the Joint Committee on Printing.

MANAGING COMMITTEE
Lloyd E. Blauch, Chairman

Jennings B. Sanders

Publication Office: Office of Education
U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE - - - WASHINGTON 25, D. C.

Subscription: In advance, 75 cents a year (10 cents a single copy), to foreign countries, $1. For orders of 100 copies or more in bulk to one address within the United States, 25 percent discount is allowed. Send remittance to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

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